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SUPPORT BASE

FIELD OF THE INVENTION

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This invention relates generally to the field of computers and in particular accessories, such as bases or pads for supporting a computer, designed for use with computers.

10 BACKGROUND OF THE INVENTION

Since their inception, personal computers have penetrated both business and private environments almost throughout the world. Computers are such an integral part of business and everyday lives that they have become critical to
15 communication, business activity and effectiveness. If a computer fails it can stop businesses from operating and in extreme cases lead to business failure.

Typically a personal computer will comprise hardware including a central processing unit (CPU), RAM, memory capacity, graphics processing device,
20 modem, disk drives of the system and other features known in the art, all enclosed within an outer casing or housing. The hardware and casing is usually referred to as the computer. Computers can be configured as laptops, handhelds, desktops and towers. Various essential accessories are then coupled to the computer to provide a working system. Those accessories may typically include a video
25 display monitor, a printer, a keyboard, a mouse, a microphone, wireless devices, speakers and a web camera.

The computer itself may be located in an operating position in a variety of alternative locations both horizontal and vertical. Those locations may include the
30 top of a desk, under the video display monitor, on a ledge, on a purpose built support device or on the floor. Many computers are located on the top of crowded

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desks because owners are reluctant to risk putting the computer on the floor or carpet for fear of damage to the computer.

Although reasonably robust, a computer is vulnerable to a number of types of damage including accumulation of dust and impact. Computers being sophisticated electronic devices are also vulnerable to damage from the ingress of moisture, from harmful insect activity and from static electricity. Further, the aesthetic appeal of a computer is traditionally somewhat limited being bland and box like. This absence of aesthetic appeal can actually detract from the ambience of the work environment. It is well documented that a favourable ambience in the work environment can result in increased productivity. An aesthetic, contented and friendly work environment has been shown to induce increased performance and general well being in staff. The lack of visual appeal is often exaggerated by the presence of a tangle of cables emerging from the cable connection region of the computer, usually the back, and lying in disordered fashion in the local environment of the device. Such a tangle may also present a risk to passing pedestrian traffic.

A further risk arises from the fact that computers presented in a tower configuration are prone to toppling sideways when impacted laterally particularly when the point of contact is in the upper half of the outer casing. It is also often difficult to move computers around. A support device may facilitate moving a computer thereby providing better access to cables and ports at the back of the device as well as being able to move the device closer to a user to provide better access to disk drives should that be required.

It would be of advantage to provide a computer support base which could be easily and effectively applied to the purpose of supporting and protecting a computer and which, preferably, also improved the safety and the aesthetic appeal of the office or home environment.

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SUMMARY OF THE INVENTION

Throughout this specification, unless the context requires otherwise, the word
5 "comprise", or variations such as "comprises" or "comprising", will be understood to imply the inclusion of a stated element or integer or group of elements or integers but not the exclusion of any other element or integer or group of elements or integers.

10 In one form, although it need not be the only or indeed the broadest form, the invention resides in a support base for a computer, said support base comprising:
a support body having an upper surface, side walls supporting the upper surface and a lower edge or surface;
retention means for retaining the computer on the support body; and
15 weight bearing means for carrying the support body above a supporting surface.

The support body may be dimensioned to extend beyond an outer perimeter of an outer casing of the computer, preferably on all sides.

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The support body may include auxiliary support means for supporting one or more of a web camera, a microphone, a speaker, a wireless promoting device, additional ports, hubs or USB access points, disk drives and other devices or connectivity apertures as may be required by computer users. The auxiliary
25 support means may comprise one or more of a ledge, a recess, a hook, a hook and loop fastener and a male/female coupling.

The support body may be formed with a substantially planar upper surface. The upper surface may include openings adapted to allow drainage of any spilt liquids
30 and to facilitate heat transfer Side walls of the support body may be flared in a downwardly direction. The side walls may include one or more ventilation

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apertures. The side walls may be ribbed.

The retention means may be formed as a recess in or above the upper surface of the support body. The recess is preferably dimensioned to receive a lower portion of the computer casing, preferably with frictional engagement, at least in part, between the lower portion of the computer casing and a peripheral wall defining the recess. The frictional engagement may be facilitated by various means such as the placement of rubber grommets. The recess may be defined by continuous side walls.

Alternatively or additionally, the retention means may comprise one or more upwardly directed projections from the support body. The projections may be arranged to abut at least part of the computer casing. The one or more projections may form an inlet for receiving the lower portion of the computer casing. The projections may be distributed around and/or in contact with all sides of a lower portion of the computer housing.

The one or more projections may comprise an anterior wall. The anterior wall may be formed integrally with the support body. The anterior wall may be removably engaged with the support body. The anterior wall may be hingedly engaged with the support base. The hinge mechanism may be resiliently biased to an upright position. The anterior wall may be continuous with one, or preferably, two side return structures. The side return structures may be each formed as a wall. The anterior wall may be adapted to display visual material such as images and/or written material. The anterior wall may have an outermost surface adapted to releasably receive visible material such as photographs, drawings, written notes, sticky notes and similar. The anterior wall may include at least a portion adapted to receive pins for releasably fixing notes to the board. The anterior wall is preferably adapted to give access to one or more control buttons and/or USB or other connectivity ports, disk drives and/ or other devices and may include apertures for this purpose. Access to the control buttons and drives may be

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available through removal or lowering of the anterior wall.

The weight bearing means may comprise a plurality of spaced feet. The spaced feet may be distributed around a downwardly facing surface of the support body.

5 Preferably at least some of the spaced feet are located, at least in part, outside an outer perimeter of the computer casing.

All the spaced feet may be located, at least in part, outside the outer perimeter.

The spaced feet may be formed of a shock absorbing material such as rubber.

10 Alternatively or additionally, the weight bearing means may include wheels positioned to contact the support surface. At least one of the wheels may include a releasable brake.

The support base may include illumination means. The illumination means is

15 preferably an electric light source such as a strip neon light. The illumination means may be adapted to highlight colours and designs of the support base to enhance their visual appeal. The lighting system may be particularly effective when the support base is formed of a translucent or transparent material such as perspex or other polymer. The lighting may be positioned underneath the support.

20 Lighting may also be used to illuminate aspects of the anterior and/ or posterior and/or lateral walls.

The support base preferably includes a cable shield for shielding a cable connection region of the computer. This is usually the back of the computer. The

25 cable shield may form a posterior wall of the support base. Preferably the cable shield is dimensioned to substantially cover the cable connection region and located in spaced relationship to the cable connection region.

The cable shield may be continuous with one or preferably two rear side return

30 structures. The side return structures may be walls. The cable shield may include a cable aperture for passage of cables through the support base to the cable

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- connection region. The cable shield may be removably connected to the support body or alternatively may be integrally formed with the support body. The cable shield may be hingedly connected to the support base to facilitate easy access to the cable connections. The cable shield may be adjustable in its spacing from the
- 5 anterior walls, preferably through a series of alternative male/female couplings between the bottom of the cable mask and an upper surface of the support body. Sprung mechanisms may also be incorporated with the cable shield to facilitate flexible positioning or to create firm contact with the computer.
- 10 The Cable Shield may also be used to fit various devices which may include but is not limited to the following: wireless facilitating devices, connectivity ports or hubs, a device or devices designed to reduce the amount of Electromagnetic Radiation (EMR) emitted from the computer.
- 15 The support base may include a cable storing cavity. The cable storing cavity is preferably located under the support body and may be defined by an inner surface of the side walls of the support body. The cable storing cavity may include a ledge, a pin and/or a spool for receiving and storing excess cable.
- 20 The support body may include a plug or plugs to receive input from an internal cable and one or more short leads from the plug or plugs to corresponding plug inlets on the computer casing. The term plug is used to include but is not limited to hubs, ports, high speed data transfer apertures and power plugs. The cavity may be dimensioned to receive excess cable. The cable storing cavity may have
- 25 an access aperture.

The storage cavity may also be adapted to receive various devices including but not limited to sound speakers and devices to create wireless local loops and /or receive signals from wireless keyboards and mouses.

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BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a front view of a support base and computer.

5 Figure 2 is a top perspective view of the arrangement of Figure 1.

Figure 3 is a bottom perspective view of the arrangement of Figure 1.

Figure 4 is a top view of the arrangement of Figure 1.

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Figure 5 is a side view of the arrangement of Figure 1.

Figure 6 shows one embodiment of a removable hinge.

15 Figure 7 is a bottom perspective view of a support body with wheels.

Figure 8 is a top perspective view of a further support body.

Figure 9 is a perspective view of a cable mask for use with the support body of
20 Figure 8.

Figure 10 is a perspective view of computer, support base and cables in position.

DETAILED DESCRIPTION OF THE DRAWINGS

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Referring to Figure 1 there is seen a support base 10 for a computer 11. The computer 11 is shown in a tower configuration having a CD drive 12 and floppy disk drive 13 formed as access apertures in outer case 14. The outer casing 14 surrounds and protects the internal components of the computer including the hard
30 disk drive, the central processing unit, the CD and floppy disk drives and associated circuitry. The range of internal componentry may be quite extensive

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with a wide range of optional components available to a purchaser and well known to a skilled addressee. While the following description is centred on a tower configuration, it is clear that the present invention may be also applied to other computer configurations such as desk top computers and servers.

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The support base 10 has a support body 15 which has a recess formed in part by sidewalls 16 dimensioned to receive a lower portion of the outer casing 14 and preferably to engage at least part of the lower portion with frictional retention capacity. The side walls may include one or more ribs or grommets, sloping
10 inwardly and downwardly or in a "D" shape to thereby decrease the width of the recess. The ribs may be formed integrally or may be formed as inserts from a resilient material such as rubber or elastomer. The side walls 16 are located above a substantially table like structure of the majority of the support body 15 with an upper surface (not seen) supporting a base of the computer. The side walls
15 may support or comprise a vertical surface or surfaces which may accommodate designs or images created to enhance the visual appeal presented by the side view of the computer. Curved outer walls 17 are provided to both enhance the aesthetic appeal of the support base 10 and also to extend the support body 15 beyond an outer perimeter of the outer casing 14. The walls may be straight
20 rather than curved but both preferably create a downwardly flared effect. The walls may be vertical or inwardly sloping.

Downwardly flared walls lead to a broader bottom surface 18 which provides a downwardly facing surface to receive weight bearing means in the form of feet 19.
25 In the present embodiment, however, the bottom surface 18 is formed as an edge of the side walls and the feet may be independently supported on or formed by individual columns as seen in Figure 3. If present as a layer, the bottom surface may be perforated to allow heat transfer, air circulation and prevent the accumulation of any liquids or moisture that may be spilt or accumulate into the support base. The feet 19 may be distributed in spaced relationship to each
30 other as required or desired by a manufacturer. However, if the feet 19 are

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located, at least in part, outside the perimeter of the outer casing 14 the stability of the device and the computer is enhanced. The feet preferably have a non-skid lower surface. The non-skid lower surface may be removably applicable to the feet.

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The support base 10 has a slightly recessed area 29 which may receive removable clip on plastic devices (similar to the colourful front facades available for many mobile phones) which will enhance the visual appeal of the support base 10. Support base 10 has an anterior wall 20 which further enhances the ability of the support base 10 to receive and retain the computer 11. The anterior wall 20 has a substantially planar surface 21 which is adapted to receive visual material such as photographs, images, holograms and written material. In one embodiment the planar surface 21 may be adapted to releasably receive devices such as sheets of plastic or paper or metal for carrying messages. These devices may be turned to useful purposes such as placing reminders in front of a user of the computer or recording phone numbers or websites of interest or any other of a wide range of applications. In the present embodiment, the anterior wall 20 has chamfered edges 22 which again enhance the aesthetic appeal of the device and also provide a transition to returns on either side of the anterior wall 20. The returns are visible in Figure 2.

Referring to Figure 2 the anterior side wall returns 23 are apparent and provide enhanced lateral stability to retention of the computer 11. An upper edge of the returns may slope downwardly and backwardly. Also visible in this view is cable shield 24 which is located at a posterior or rearward region of the support base 10 and dimensioned to provide a spaced relationship to the cable connection region of the computer 11. Typically such a region is located on the rearward surface of the computer 11. The cable shield 24 may have a decorative aperture 25 which may also enhance air flow around the back of the computer 11. The cable shield 24 also includes posterior side wall returns 26 to provide further lateral resistance to sideways displacement of the computer 11 from the support base 10. The side

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5 wall 16 may be continuous with the returns 23, 26 or may be independently formed. The cable shield 24 may be permanently attached or formed integrally with the support body 15 or may be removably mounted to facilitate replacement of the cable shield if damaged or for repair or in some formats simply providing for rotation of different styles, colours and configuration of cable shields. The cable shield may be rotatably hinged to the support body 15. The hinged mechanism may be resiliently biased to an operating deployment by a spring member or members. The spring member may be positioned as appropriate around the hinge.

10 While the cable shield may add a decorative and aesthetically appealing effect, it also serves the purpose of protecting cable connections to the computer. The presence of the shield allows the computer to be pushed back against a vertical surface such as a wall, without damage to the cables and while maintaining a substantial air space for ventilation.

15 While the side wall 16 and associated recess is shown as formed in continuous fashion, it is readily apparent to a skilled addressee that individual picket like projections or tabs may be harnessed to provide a similar function. Likewise the configuration of the anterior wall 20 and cable shield 24 may be varied in any suitable fashion. For example, the anterior wall may have a curved or bulbous surface instead of a planar surface 21. The planar surface may extend laterally to provide greater space and may also be formed with one or more ledges. Many other and varied configurations will be apparent to those skilled in the art.

25 A bottom perspective view of the computer 11 and support base 10 is seen in Figure 3. This view highlights the spaced distribution of the feet 19 and also discloses a cavity 26 defined by body edge wall 27. The feet 19 are formed by individual columns. The cavity 26 is dimensioned to receive excess cables which may be positioned in the cavity for convenient, safe and neat storage. The cables may be coiled or bunched in cavity 26 providing a convenient repository for excess

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computer cables. Clearance of the bottom surface 18 from a support surface may be conveniently 8mm or more.

5 Cable access to the cable connection region may be facilitated by the aperture 28 which permits routing of cables from behind the computer through the aperture 28 and to their ultimate connection ports on the back of the computer. The present configuration is suitable for location over a computer cable outlet aperture such as is commonly formed in present day desks. This arrangement provides a very neat deployment of cables which may exit from the desk aperture through the aperture 10 28 and into connection with the computer with virtual absence of visual profile to the user of the device and others.

15 In an alternative embodiment, part of the body edge wall 27 may be removed or removable to provide access through the body edge wall 27 to the aperture 28 and subsequent continuation to engagement with the computer.

20 In yet another embodiment, plugs may be located in or around the region of the aperture 28 to receive input cables. These plugs may be in signal connection with corresponding plugs on the back of the computer through short dedicated cables.

Figure 4 shows a top view of the outer casing 14, support body 15 and anterior wall 20. The cable shield 24 is spaced from the outer casing 14 and access aperture 28 to provide space for cables and also ventilation space.

25 Figure 5 is a side view of support body 15, anterior wall 20 and cable shield 24 positioned to hold the computer 11. In this view it is apparent the side walls are slightly converse on an upper edge which provides additional depth of support to the lower region of the computer 11. Coiled cables are apparent in hidden outline.

30 Figure 6 shows one arrangement for the hinged engagement of the anterior wall 120 and support body 115 to give a saddle and aperture coupling. The coupling

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comprises an extension piece 130 from the anterior wall 120 terminating in a saddle 131 having a recess 132. The anterior wall 120 may be rotated upwards and lifted so that first leg 133 is aligned to pass through an aperture 134 in the body 115. The first leg 133 may then be passed through the aperture and recess
5 132 may be positioned over a lower edge of the aperture 134 to lock the anterior wall 120 in an upward position. A corresponding arrangement on an opposite side of both the wall and support body operates simultaneously. The anterior wall 120 may be lowered by reversing the process. A spring mechanism may be added to a hinged arrangement

10 Figure 7 shows an embodiment of a support body 215 wherein wheels 219 are fitted to the feet. A least one of the wheels may have a reversible brake locking mechanism to fix a supported computer in place. The side walls 216 are ribbed to both add strength and aesthetic appeal.

15 Figure 8 shows a support body 415 having cylindrical apertures 435 to receive pins (see Figure 9) from the bottom of a cable mask. A series of apertures may be provided so that the position of the cable mask may be altered longitudinally. Slots 436 are shown in the front of the support body 415 which are equivalent to
20 the apertures 134 of Figure 6. Such apertures may not be required in certain configurations of the support base or alternative apertures may be required to facilitate other support functions.

25 Figure 9 is a cable shield or mask 424 having pins 437 adapted for insertion in the apertures 435 of the support body 415 of Figure 8.

Figure 10 shows a perspective view of a computer 511 positioned in a support base 510 with a cable shield 524 having a series of ornate ventilation apertures 525. A series of cables 538 are routed under the shield 524. The support body
30 515 has a ribbed effect 539 visible in its side walls.

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The support base may be formed by injection moulding of tinted or non tinted acrylobutylene styrene (ABS). The support base may be manufactured in two pieces which are joined together. Such joining may be designed to accommodate varying lengths of computers. The two pieces may be joined transversely by an arrangement adapted to provide sliding relative longitudinal movement between them. They may for example have a sliding connection using one or more slots and a pin arranged in each of the slots, each positioned in a separate piece. The two pieces may be configured to slide one over the other to provide a telescoping relative motion.

10 The present invention is noteworthy for providing a safe and effective support of a computer out of contact with an actual support structure such as a desk, a table, a ledge or the floor. It can facilitate the freeing up of valuable desk space by providing peace of mind to the owner that the computer is both protected and supported being located on the floor. In the latter case impact from devices such as vacuum cleaner heads is minimised and the computer itself is shielded from direct impact and protected from liquid spills, dust ingress and also possibly from invasive insect activity. If the base is formed from a shock absorbing material such a neoprene, nylon or carbon fibre, the protective function of the device is magnified. One preferred material is acrylobutylene styrene ("ABS") and polycarbonate. The present invention also provides an aesthetically appealing and practical organisational tool for a computer. Further the present invention allows the use of aesthetically appealing imagery on the device and in particular on the anterior surface or the anterior wall which may use commercially successful and popular imagery such as photographs taken from successful or famous films thereby providing an advertising outlet. A series of different alternative images may be provided for interchanging. The anterior wall provides the possibility of transforming the computer into an object of personal self expression. This possibility could conceivably increase productivity in work environments. The anterior surface may serve a functional device in retaining notes or reminders for ready visualisation by a user. If the anterior wall is made as a removable device,

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different colours and advertising motifs may be used as a replacement for interchangeable anterior walls to thereby create a different visual image for the computer support base and indeed the computer itself. A series of replaceable facias may be provided to clip onto the anterior wall. Additionally, the anterior wall
5 may be used as a display surface for trade marks and other advertising indicia.

Throughout the specification the aim has been to describe the preferred embodiments of the invention without limiting the invention to any one embodiment or specific collection of features. Those of skill in the art will therefore appreciate
10 that, in light of the instant disclosure, various modifications and changes can be made in the particular embodiments exemplified without departing from the scope of the present invention. All such modifications and changes are intended to be included within the scope of the disclosure.

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